AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A medical implant device comprising:

a receiver member including a plurality of wall sections defining a longitudinal bore, wherein said wall sections have an inner threaded portion; and

a closure member including a rearward end, a forward end, a substantially cylindrical body having a longitudinal axis and an outer threaded portion for threaded engagement with said inner threaded portion of said receiver member, wherein the outer thread portion includes a screw form for a given cross-section of thread through a plane which includes the longitudinal axis, the screw form comprising:

a rearward-facing thread surface having a substantially straight sloped portion and at least two non-contiguous curve portions, such that a point on the rearward-facing thread surface at a root of the thread surface is farther from the forward end than a point on the rearward-facing thread surface at a crest of the thread surface when measured along a line parallel to the longitudinal axis; wherein a maximum thickness of the thread occurs at a point closer to the crest of the thread than the root of the thread.

2. (Original) The medical implant device of claim 1 wherein said receiver member also includes a transverse channel substantially perpendicular to said bore.

3. (Original) The medical implant device of claim 1 wherein said receiver member is a part of a bone fixation device.

4. (Original) The medical implant device of claim 3 wherein said bone fixation device is a bone screw.

5. (Original) The medical implant device of claim 3 wherein said bone fixation device is a spinal hook.

6. (Original) The medical implant device of claim 1 wherein said closure member is a set screw.

7. (Currently Amended) The medical implant device of claim 1 ~~wherein~~ wherein the screw form further comprises: a forward-facing thread surface having a substantially straight sloped portion and at least two non-contiguous curve portions, such that a point on the forward-facing thread surface at a root of the forward facing thread surface is closer to the forward end than a point on the forward-facing thread surface at a crest of the forward facing thread surface when measured along a line parallel to the longitudinal axis.

8. (Previously Presented) The medical implant device of claim 1 wherein an angle measured between the substantially straight sloped portion of the forward-facing thread surface and a the substantially straight sloped portion of the rearward facing thread surface is between about 2 degrees and 40 degrees.

9. (Original) The medical implant device of claim 8 wherein said included angle is about 15 degrees.

10. (Original) The medical implant device of claim 1 wherein said outer threaded portion is configured as a helical spiral about said body, and wherein the thickness of said outer threaded portion at its crest varies along the helical spiral.

11. (Original) The medical implant device of claim 1 wherein said outer threaded portion is configured as a helical spiral about said body, and wherein the thickness of said outer threaded portion at its root varies along the helical spiral.

12. (Original) The medical implant device of claim 1 wherein said outer threaded portion is configured as a helical spiral about said body, and wherein a peak thickness of said outer threaded portion occurs crestward of said outer threaded portion's root, and wherein the thickness of said peak thickness varies along said helical spiral.

13. (Original) The medical implant device of claim 12 wherein said thickness of said peak thickness is thicker at a rearward portion of said helical spiral than at a forward portion of said helical spiral relative to the direction of advancement of said closure member when being inserted into said receiving member.

14. (Currently Amended) A medical implant device comprising:

a receiver member including a plurality of noncontiguous wall sections defining a longitudinal bore, wherein said plurality of noncontiguous wall sections include a female threaded portion configured as a helical spiral about a center longitudinal axis of the bore; and

a closure member including a substantially cylindrical body having a forward end, a rearward end, a longitudinal axis and a male threaded portion for interlocking engagement with said female threaded portion of said receiver member, wherein the male threaded portion includes a screw form for a given cross-section of thread through a plane parallel to the longitudinal axis, the screw form comprising: a rearward-facing thread surface having a substantially straight sloped portion and at least two non-contiguous curve portions, such that a point on the rearward-facing thread surface at a root of the thread is farther from the forward end than a point on the rearward-facing thread surface at a crest of the thread when measured along a line that is parallel to the longitudinal axis; wherein a maximum thickness of the thread occurs at a point closer to the crest of the thread than the root of the thread.

15. (Original) The medical implant device of claim 14 wherein said receiver member also includes a transverse channel substantially perpendicular to said bore.

16. (Original) The medical implant device of claim 14 wherein said receiver member is a part of a bone fixation device.

17. (Original) The medical implant device of claim 16 wherein said bone fixation device is one selected from the group consisting of: a bone screw and a spinal hook.

18. (Original) The medical implant device of claim 14 wherein said closure member is a set screw.

19. (Original) The medical implant device of claim 14 wherein said male threaded portion is configured as a helical spiral about said body, and wherein thickness at said at least one point crestward of its root varies along the helical spiral.

20. (Original) The medical implant device of 14 wherein said male threaded portion is configured as a helical spiral about said body, and wherein the thickness of said male threaded portion at its root and the thickness of said male threaded portion at its crest vary along the helical spiral.

21. (Currently Amended) A noncontiguous receiver member and complementary closure member included in a medical implant device, comprising:

said noncontiguous receiver member having a plurality of noncontiguous wall sections separated by a slot, said wall sections at least partially defining a longitudinal bore, wherein said plurality of noncontiguous wall sections include a female threaded portion that forms substantially a helical spiral about a center longitudinal axis of the bore; and

said complementary closure member having a substantially cylindrical body portion and male threaded portion that forms substantially a helical spiral about a center longitudinal axis of the body portion, wherein the male threaded portion includes a screw form for a given cross-section of thread through the longitudinal axis, the screw form comprising: a rearward-facing thread surface having a substantially straight sloped portion and at least two non-contiguous curve portions, such that a point on the rearward-facing thread surface at a root of the thread is farther from a forward end of the closure member than a point on the rearward-facing thread surface at a crest of the thread to form a rearward peak of said male threaded portion on its trailing-edge surface at some point crestward of its root, and wherein a forward peak of said male threaded portion is provided on its leading-edge surface at some point crestward of its root; wherein the distance between the rearward peak and the forward peak provides a maximum thickness of the thread; wherein the maximum thickness of the thread occurs at a point closer to the crest of the thread than the root of the thread.

22. (Canceled)

23 (Canceled)

24. (Original) The noncontiguous receiver member and complementary closure member of claim 21 wherein said rearward peak occurs at the crest of said trailing-edge surface.

25. (Original) The noncontiguous receiver member and complementary closure member of claim 24 wherein said forward peak occurs at the crest of said leading-edge surface.

26. (Original) The noncontiguous receiver member and complementary closure member of claim 21 wherein said receiver member also includes a transverse channel substantially perpendicular to said longitudinal bore.

27. (Original) The noncontiguous receiver member and complementary closure member of claim 21 wherein said receiver member is a part of a bone fixation device.

28. (Original) The noncontiguous receiver member and complementary closure member of claim 27 wherein said bone fixation device is one selected from the group consisting of: a bone screw and a spinal hook.

29. (Currently Amended) A medical implant device comprising:

a means for receiving a closure means, the receiving means including a plurality of noncontiguous wall sections at least partially defining a longitudinal bore, wherein said wall sections have an inner threaded portion; and

said closure means for engaging said plurality of noncontiguous wall sections, the closure means including a substantially cylindrical body having an outer threaded portion for threaded engagement with said inner threaded portion of said receiving means,

wherein said outer threaded portion includes a screw form for a given cross-section of thread through a longitudinal axis of the closure means, the screw form comprising: a rearward-facing thread surface having a substantially straight sloped portion and at least two non-contiguous curve portions, such that a point on the rearward-facing thread surface at a root of the thread is farther from a forward end of the closure means than a point on the rearward-facing thread surface at a crest of the thread when measured along a line parallel to the longitudinal axis; wherein a maximum thickness of the thread occurs at a point closer to the crest of the thread than the root of the thread.

30. (Currently Amended) A medical implant device comprising:

a receiver member including a plurality of noncontiguous wall sections at least partially defining a longitudinal bore, wherein said plurality of noncontiguous wall sections include a female threaded portion arranged as a helical spiral about a center longitudinal axis of the bore; and

a closure member including a substantially cylindrical body having a male threaded portion for interlocking engagement with said female threaded portion of said receiver member,

wherein said male threaded portion includes a trailing edge having a root adjacent said body and having a crest at a point on said trailing edge that is furthest from a longitudinal axis centered in said cylindrical body when measured along a line perpendicular to said longitudinal axis,

wherein said outer threaded portion includes a screw form for a given cross-section of thread through a plane which includes the longitudinal axis, the screw form comprising:

a rearward-facing thread surface having a substantially straight sloped portion and at least two non-contiguous curve portions, such that a point on the rearward-facing thread surface at a root of the thread is farther from a forward end of the closure member than a point on the rearward-facing thread surface at a crest of the thread, and

a forward-facing thread surface having a substantially straight sloped portion and at least two non-contiguous curve portions, such that a point on the forward-facing thread surface at a root of the forward facing thread surface is closer to the forward end than a point on the forward-facing thread surface at a crest of the forward facing thread surface when measured along a line parallel to the longitudinal axis; wherein a maximum thickness of the thread occurs at a point closer to the crest of the thread than the root of the thread.

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. Canceled

35. (Previously Presented) The medical implant device of claim 14 wherein the screw form further comprises: a forward-facing thread surface having a substantially straight sloped portion and at least two non-contiguous curve portions, such that a point on the forward-facing thread surface at a root of the forward facing thread surface is closer to the forward end than a point on the forward-facing thread surface at a crest of the forward facing thread surface when measured along a line parallel to the longitudinal axis.

36. (Previously Presented) The medical implant device of claim 21 wherein the screw form further comprises: a forward-facing thread surface having a substantially straight sloped portion and at least two non-contiguous curve portions, such that a point on the forward-facing thread surface at a root of the forward facing thread surface is closer to the forward end than a point on the forward-facing thread surface at a crest of the forward facing thread surface when measured along a line parallel to the longitudinal axis.

37. (Previously Presented) The medical implant device of claim 29 wherein the screw form further comprises: a forward-facing thread surface having a substantially straight sloped portion and at least two non-contiguous curve portions, such that a point on the forward-facing thread surface at a root of the forward facing thread surface is closer to the forward end than a point on the forward-facing thread surface at a crest of the forward facing thread surface when measured along a line parallel to the longitudinal axis.